

in the large series of unusually good and well reproduced photographic illustrations by which the descriptions are reinforced. Although only a small fraction of the fleshy fungi of Illinois are included, the more important are considered, and the bulletin accounts for 61 edible and 9 inedible species.—W. TRELEASE.

**Effect of copper sulphate.**—JUNGELSON<sup>32</sup> has examined the effect that sterilization of seeds with copper sulphate solutions may have upon the plants developing from them. He used *Zea Mays* and soaked the seeds in 1 or 2 per cent copper sulphate 1–24 hours. Both intact and more or less mutilated seeds were used to give different degrees of contact between the salt and parts of the embryo. The treatment weakened germination, modified the chlorophyll of the young plant, and delayed vegetative development and flowering. It caused the formation of several types of ears and grains not found in the checks. These effects increased with the concentration of the solution, the duration of treatment, and the degree of excoriation of the seed. The treatment with copper gave no precise change in the plant, but rather a tendency to great variation in one or several of many directions. This tendency to vary was transmitted to the second generation. JUNGELSON believes that the degeneration of some excellent strains of cereals may have been due to excessive use of copper sulphate or other fungicides applied to seeds. He sees in this also the possibility of the origin of certain monsters that breed true.—WM. CROCKER.

**Herbarium Amboinense.**—A monument to American botanical activity in the Malay region is MERRILL'S "Interpretation of Rumphius's Herbarium Amboinense,"<sup>33</sup> dedicated to the memory of CHARLES BUDD ROBINSON, JR., who lost his life in Amboina in 1913 while prosecuting studies toward its publication. RUMPHIUS, whose voluminous publication appeared about the middle of the eighteenth century, 50 years after his death, seems to have dealt primarily with the queer and the useful plants, and to have understood these and their relationships rather as the natives did than along the lines of modern taxonomy. Without its illustrations his herbarium would have passed into the category of efforts scarcely capable of correlation with subsequent work; with these, it has and will continue to hold a prominent place among publications on the Malay flora. The present "Interpretation" gives it a standing that should be lasting, provided care in the field, adequate linguistic preparation, scrupulous fidelity in weighing evidence, and an adherence to international rules of nomenclature can insure such a result for the work of one who today stands foremost in his knowledge of the Malay flora.—W. TRELEASE.

---

<sup>32</sup> JUNGELSON, A., Sur des epis anormaux de maïs obtenus a la suite du traitement cuivrique de la semence. Rev. Gen. Bot. 29:244–248, 259–285. 1917.

<sup>33</sup> MERRILL, E. D., An interpretation of RUMPHIUS'S Herbarium Amboinense. pp. 595. Publ. no. 9. Depart. Agric. and Natural Resources, Bureau of Science. Manila: Bureau of Printing. 1917.